EcoDrive

QE3760/QE5540

CE

Type

PE310ED

Instruction Manual

Part 3

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List of Contents Part 3

Technical updatings reserved!

11. Survey and List of Parameters

11.1 Explanation of Parameter Survey

The parameter survey is designed as an aid for finding parameters quickly. It is a summary of references for the parameter list. Listed behind each reference are all parameters which exert an influence on the function described by the reference.

The parameter survey is divided into five columns:
Column 1 shows the references (functions) to which parameters are assigned.
Column 2 shows the abbreviations of the respective functions.
Column 3 shows all parameters (setting numbers) belonging to the respective reference.
Column 4 shows, for each function (reference) which controls inputs or outputs, the applicable indications such as Ex or Ax which can also be found on the connections diagram.
Column 5 shows, for each function (control inputs (Ex) or control outputs (Ax)), the respective plugs with the number of contacts (see connections diagram).

Example for searching a parameter:
Keyword (function): inverse rotation
The parameter survey shows in column 3 the parameter numbers 618, 801.

Suppose that the inverse rotation function is to be enabled. The parameter list shows this function under parameter number 618.

11.2 Explanation of Parameter List

The parameter list is divided into 5 columns. These comprise, in
column 1: the parameter number,
column 2: is the explanation (meaning) of the parameters and the coding system of row 1 of the keys of the mini operator's panel, used when the parameter concerned can be programmed with the mini operator's panel,
column 3: the programming level (A, B, C) on which the parameter in question can be accessed,
column 4: the range of values within which the parameter in question can be set,
column 5: the value of the parameter in question is set on delivery ex factory.

Parameters having "either/or" validity (software switches) can merely be set to value I or II. In the case of such parameters, column 4 is empty.
Parameter numbers in acute brackets; e.g. <105>, mean the value (content) set for the parameter in question.

Example:
107 Speed for front backtack when <106> = I
I limited by <105>
II limited by <607>

Explanation:
Parameter 107 is valid only the the value (content) of parameter <106> = I.
If parameter 107 is set to I (<107> = I), then the speed for the front backtack is limited by parameter 105, e.g. <105> = 1500. If parameter 107 is set to II (<107> = II), then the speed for the front backtack is limited by the value of parameter 607, e.g. <607> = 4000.

Function	Abbrev'n	Parameter	Input Output	Connection Socket/Contacts
Accelerate	DRZAN	722		
Backtack	RIE	105/110/305		
Blower	BLA	250/668		
Brake	DRZAB	723		
Chaining-off finger	KEFI	215/216/217		
Chainstitch machine	KES	578/765		
Chopper	MESSE	105/110/486 714		
Control	REG	880/884/885 886/887/889 890/898		
Defect search	HWT	797		
Delay	VERZ	189/190/198 216/217/623 642/643/716 717/730/765 770/779		
Direction of rotation	DRR	800		
Display	ANZ	605/933		
End backtack	ER	110/305		
Engine	MOT	897		
Feed reverse	TUM	301/643/721		
Flip-Flop	FF	486		
Front backtack	AR	105/106/305		
Hardware test	HWT	797		
Inverse rotation	RDR	618/623/801		
Linear motor	LINMOT	668		
Lockstitch machine	STS	578		
Machine class	MAKL	790/799		
Needle position	NAPO	521/700/702 703/710		
Needle position change-over	NPW	616		

Needle up without trimming	NHOS	616/710
Number of stitches	STZA	111/112/141 145/215/250 760
ON period	EINZ	189/190/198 528/714/715 749/889
Photocell	LS	111/112/161 188/199/615
Presser foot	PF	633/642/651 668/719/729 730/770
Program	PR	206
Programming level C	EBC	798
Residual brake	STBR	718
Scissors	SCHER	486
Seam end	NE	110/145/206 602
Seam start	NA	105
Soft start	SANL	116/117
Speed	DRZ	105/106/110 117/199/586 605/606/607 609/901
Speed decrease	DRZAB	723
Speed increase	DRZAN	722
Speed limitation	DB	586
Stacker	STAP	528
Start	START	161/188/603
Start delay	STVERZ	729
Starting block	ANLSP	619/665
Stepper motor	SMOT	1000/1001/1002 1003/1010/1050 1052/1100/1101 1102/1103/1104
Stitch condensation	STVD	105/106/110
Stitchcounter	STZ	250/760
Stop	STOP	206/619/665
Target stitch	PEIPO	653/789

Thread monitor	FW	141/660/760
Thread tension release	FSL	749/779
Thread trimming	SN	609/619/633 714/717/765 901
Thread wiper	WI	668/715/716
Time needed to switch on	EINZ	189/190/198 528/714/715 749/889
Timing output	TA	642/643/719 721
Unlocking of chain	ENTKET	425
Vacuum	SAUG	105/110

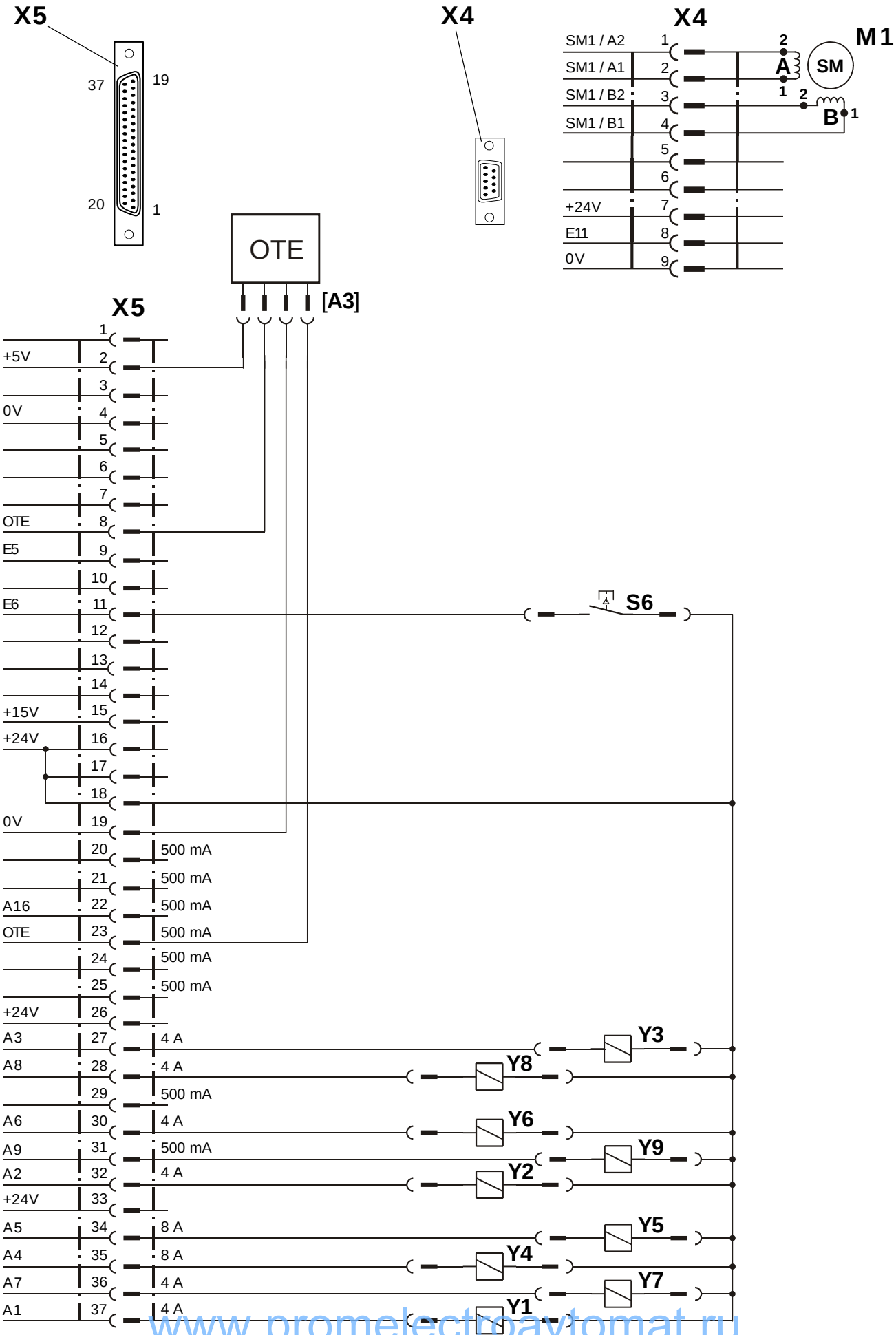
No.	Function (Meaning)	Level	Range of Values	Value	Standard
105	(AR/RIE/DRZ/MESSER/NA/SAUG/STVD) Speed for front backtack / stitch condensation	B,C	0100 - 6500	1400	Kl. 1
106	(AR/DRZ/STVD) Speed for front backtack / stitch condensation 1 variable (treadle-controlled) 0 constant (corresponding to <105>)	B,C		0	Kl. 1
110	(ER/RIE/DRZ/MESSER/NE/SAUG/STVD) Speed for end backtack / stitch condensation	B,C	0100 - 6500	1400	Kl. 1
111	(LS/STZA) Light barrier compensation stitches 1 (stitches from light barrier clear to seam end)	A,B,C	0001 - 0100	8	Kl. 1
112	(LS/STZA) Number of stitches for light barrier fade-out on knit fabrics (according to stitch size)	A,B,C	0000 - 0100	0	Kl. 1
116	(SANL) Soft start stitches	A,B,C	0000 - 0030	0	Kl. 1
117	(SANL/DRZ) Speed for soft start stitches	B,C	0030 - 1000	800	Kl. 1
141	(FW/STZA) Number of stitches until bobbin thread monitor signal becomes active (signal suppression on bobbin thread monitor)	B,C	0000 - 0255	10	Kl. 1
145	(NE/STZA) Number of stitches for seam end	B,C	0000 - 0255	3	Kl. 1
161	(LS/START) Start delay for start of photocell	B,C	0000 - 2000	200	Kl. 1
188	(LS/START) Start by light barrier 1 even when light barrier is light 2 only when light barrier is dark 3 without pedal when light barrier is dark 4 drive start over input	C	0001 - 0003	1	Kl. 1
189	(VERZ/EINZ) Delay/on time t1	B,C	0000 - 2000	200	Kl. 1
190	(VERZ/EINZ) Delay/on time t2	B,C	0000 - 2000	200	Kl. 1
199	(DRZ/LS) Speed for light barrier compensation stitches	B,C	0300 - 3500	1200	Kl. 1
206	(NE/PR/STOP) Interrupt/discontinue seam sections at speed = constant (<203> = II) 1 with treadle -2 0 with treadle 0	B,C		1	Kl. 1
301	(TUM) Switch-on voltage of the magnet for transport change-over 1 24V 0 32V	C		1	Kl. 1
305	(RIE/AR/ER) Front-backtack and end-backtack with interruption at pedal zero position 1 yes 0 no	B,C		0	Kl. 1
425	(ENTKET) Unlocking of chain at seam end 1 yes 0 no	B,C		0	Kl. 1
486	(FF/SCHERE/MESSER) function of output 1 cutter 0 chopper (rapid shears)	B,C		0	Kl. 1
528	(EINZ/STAP) Duration (ms) of stacker function	B,C	0000 - 2500	1000	Kl. 1
578	(KES/STS) Type of machine 1 overlock 0 chainstitch or lockstitch (<799>)	C		0	Kl. 1
586	(DRZ/DB) Speed limitation	B,C	0300 - 4800	3000	Kl. 1
602	(NE) Seam end at treadle position 1 slightly heeled (-1) 0 fully heeled (-2)	B,C		0	Kl. 1
603	(START) Start after seam end 1 after treadle 0 only 0 immediate start of operation	B,C		0	Kl. 1

605	(DRZ/ANZ) Actual speed in display (<725>) 1 yes 0 no	B,C		0	Kl. 1
606	(DRZ) Speed: level 1 (min.)	B,C	0060 - 0600	200	Kl. 1
607	(DRZ) Speed: level 12 (max.)	B,C	0100 - 9500	4000	Kl. 1
609	(SN/DRZ) Trimming speed 1	B,C	0060 - 0300	200	Kl. 1
615	(LS) End recognition when photocell goes 1 from light to dark 0 from dark to light	B,C		0	Kl. 1
616	(NPW/NHOS) Function of external key (input) 1 needle position change-over (NPW) 0 needle up without trimming (NHOS)	B,C		1	Kl. 1
618	(RDR) Inverse rotation after seam end 1 yes 0 no	B,C		0	Kl. 1
619	(SN/ANLSP/STOP) Control of thread trimming (safety switch no run) 1 yes 0 no	B,C		0	Kl. 1
623	(RDR/VERZ) Delay in start-up time (ms) for inverse rotation	B,C	0000 - 2000	100	Kl. 1
633	(SN/PF) Trimming and presser foot 1 with treadle „-2“ only (<602> = II) 0 corresponding to <602>	B,C		0	Kl. 1
642	(PF/VERZ/TA) preser foot time from switch-on to voltage reduction (cycling)	B,C	0010 - 0200	200	Kl. 1
643	(TUM/VERZ/TA) feed reverse time from switch-on to voltage reduction (cycling)	B,C	0010 - 0200	200	Kl. 1
651	(PF) Presser foot with automatic descent on machine stop 1 yes 0 no	B,C		1	Kl. 1
653	(PEIPO) Target stitch before sewing 1 yes 0 no	B,C		0	Kl. 1
660	(FW) Bobbin thread monitoring 0 without (= *II*) 1 via a sensor (= **I*) 2 by a stitch count	B,C	0000 - 0002	0	Kl. 1
665	(ANLSP/STOP) Run locking/stop 1 contact closed 0 contact open	B,C		0	Kl. 1
668	(BLA/LINMOT/PF/WI) Thread wiper/thread clearer 1 yes 0 no	A,B,C		1	Kl. 1
700	(NAPO) Needle position 0 (reference position of the needle)	B,C	0000 - 0255	0	Kl. 1 *
702	(NAPO) Needle position 1 (needle down)	B,C	0000 - 0255	53	Kl. 1
703	(NAPO) Needle position 2 (thread take-up lever up)	B,C	0000 - 0255	222	Kl. 1
710	(NAPO/NHOS) Needle position 3 (needle up)	B,C	0000 - 0255	205	Kl. 1 *
714	(EINZ/SN/MESSER) Duration (ms) for chainstitch trimming or chopper	B,C	0010 - 2500	100	Kl. 1
715	(EINZ/WI) Duration (ms) of thread wiper	B,C	0000 - 2500	60	Kl. 1
716	(VERZ/WI) Delay in start-up time (ms) for thread wiper	B,C	0000 - 2500	30	Kl. 1
717	(SN/VERZ) Delay in start-up time (ms) for trimming method when the machine is not activated by the treadle	B,C	0000 - 2500	100	Kl. 1
718	(STBR) Timing of residual brake (0 = brake off)	B,C	0000 - 0100	0	Kl. 1
719	(PF/TA) Timing output (lifting presser foot)	B,C	0000 - 0090	80	Kl. 1

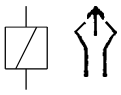
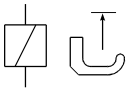
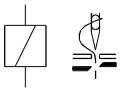
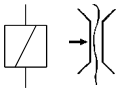
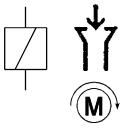
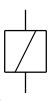
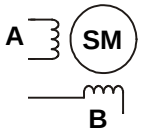
721	(TUM/TA) Timing output (feed reverse)	B,C	0010 - 0090	40	Kl. 1
722	(DRZAN) Acceleration ramp 1 gradual 50 steep	B,C	0001 - 0060	50	Kl. 1
723	(DRZAB) Brake ramp 1 gradual 50 steep	B,C	0001 - 0060	30	Kl. 1
729	(STVERZ/PF) Start delay after lowering presser foot	B,C	0010 - 2000	100	Kl. 1
730	(PF/VERZ) Lift delay for presser foot after seam end	B,C	0010 - 2000	50	Kl. 1
749	(EINZ/FSL) Duration (ms) of thread tension release	B,C	0000 - 2500	130	Kl. 1
760	(FW/SPFW/STZ/STZA) - Stitch count for the remnant thread after the bobbin thread monitor responds with direct bobbin thread monitoring - Multiplicator for the fixed value (200) for determining the start value of the stitch counter with indirect bobbin thread monitoring	B,C	0000 - 0250	5	Kl. 1
765	(SN/KES/VERZ) Delay in start-up time (ms) for chainstitch trimming	B,C	0010 - 2500	30	Kl. 1
770	(PF/VERZ) Lifting delay of presser foot at threadle- position „-1“	B,C	0010 - 0250	70	Kl. 1
779	(FSL/VERZ) Delay (ms) until thread tension release on	B,C	0000 - 2500	200	Kl. 1
789	(PEIPO) Needle position 10 (target stitch)	B,C	0000 - 0255	248	Kl. 1
790	(MAKL) Program selection for machine classes by operators box	C	0000 - 0009	1	Kl. 1
797	(HWT) Hardware test 1 yes 0 no	C		0	Kl. 1
798	(EBC) Programming level C 1 yes 0 no	B,C		0	Kl. 1
799	(MAKL) Machine class which has been selected	C	0001 - 0001	1	Kl. 1
800	(DRR) Direction of motor rotation viewed from belt pulley 1 left-hand rotation 0 right-hand rotation	C		0	Kl. 1 *
801	(RDR) Reverse rotation angle after seam end	B,C	0010 - 0212	100	Kl. 1
814	(SONST) Positioning change-over 1 = deceleration ramp in target position 2 = Max. braking at positioning speed and waiting until target position is reached.	C	0001 - 0002	1	Kl. 1
815	Kein Kommentar vorhanden	C	0001 - 0002	2	Kl. 1
880	(REG) Starting current max. [A]	C	0001 - 0020	8	Kl. 1
884	(REG) Proportional amplification of the speed control (in general)	C	0001 - 0050	8	Kl. 1
885	(REG) Integral amplification of the speed control	C	0001 - 0255	35	Kl. 1
886	(REG) Proportional amplification of the order controllers	C	0001 - 0025	15	Kl. 1
887	(REG) Differential amplification of the order controllers	C	0001 - 0025	10	Kl. 1
889	(EINZ/REG) Time required for order controlling (0 = always)	C	0000 - 2500	600	Kl. 1
890	(REG) Proportional amplification of the superior order controllers for the residual brake	C	0001 - 0025	15	Kl. 1
897	(MOT) MINI motor version 1 long 0 short	C		0	Kl. 1

898	(REG) Current limiting for the motor 1 = 15A 0 = 10A	C		0	Kl.	1
901	(DRZ/SN) Trimming release speed	C	0030 - 0500	350	Kl.	1
933	(ANZ) Display change-over 1 diagnosis 0 normal display	C		0	Kl.	1
1000	(SMOT) Count of stepping motors	C	0000 - 0001	1	Kl.	1
1001	(SMOT) Starting angle stepper	B,C	0000 - 0255	100	Kl.	1
1003	(SMOT) Transport roller radius	B,C	0005 - 0050	15	Kl.	1
1010	(SMOT) Count of manual gather values	B,C	0001 - 0006	2	Kl.	1
1050	(SMOT) P-content tape tensioning control	B,C	0001 - 0255	150	Kl.	1
1052	(SMOT) Tape tensioning control filter	B,C	0002 - 0020	5	Kl.	1
1100	(SMOT) Incremental motor 1 operating mode (puller, differential adjustment, etc.) 1 = Puller intermittent with transport at seam end 2 = Differential feed 3 = Electric shaft 4 = Electric shaft with transport at seam end	B,C	0000 - 0005	4	Kl.	1
1101	(SMOT) Rotational direction SM1 0 = anticlockwise 1 = clockwise	B,C		1	Kl.	1 *
1102	(SMOT) SM1 increment mode 1 = Full increment 2 = Half-increment 3 = Quarter-increment 4 = Eighth-increment	C	0001 - 0004	2	Kl.	1
1103	(SMOT) SM1 % maximum current	C	0001 - 0100	50	Kl.	1
1104	(SMOT) SM1 % power reduction	B,C	0000 - 0050	2	Kl.	1
1105	(SMOT) SM1 start/stop time (time for 1 increment at start / stop rpm)	C	0010 - 4000	500	Kl.	1
1106	(SMOT) Roof time (time for 1 increment in roof) SM1	C	0010 - 2000	200	Kl.	1
1107	(SMOT) SM1 acceleration (% increase from start / stop up to roof) SM1	C	0001 - 0100	5	Kl.	1
1108	(SMOT) SM1 braking increments (number of braking increments)	C	0001 - 0200	5	Kl.	1
1109	(SMOT) SM1 reduction ration (with electrical shaft and tape tensioning)	B,C	0006 - 0255	200	Kl.	1
1110	(SMOT) Offset after reference run	C	0000 - 0200	10	Kl.	1
1111	(SMOT) Stepping motor 1 adjustment range	B,C	0000 - 0099	30	Kl.	1

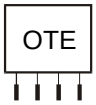
12. Electrical Connections Diagram PE310ED



Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys
Signification des aimants resp. solenoides et touches / Significação dos imaõs e/ou as solenoidas e teclas
Significato dei magneti, delle valvole magnetiche e dei tasti / Significación de los imanes y/o los solenoides
y pulsadores / Betekenis van de magneten resp. magneetkleppen, toetsen

S6  **STOP**	Umlegesicherung / Anlaufsperre / safety device / approach barrier
Y1 I max 4 A ✱ 	Stützrolle / Supporting roller
Y2 I max 4 A ✱ 	Kantenschneider / edge trimmer
Y3 I max 4 A ✱ 	Ausblasen / blowing out
Y4 I max 8 A ✱ 	Presserfuß heben / lifting presser foot / relevage du pied presseur / levantar do calcador / sollevamento del alzapiedino / elevación de prensatelas / drukvoet optillen
Y5 I max 8 A ✱ 	Andruckrolle / pressing roller
Y6 I max 4 A ✱ 	Fadenschneider / thread trimmer / coupe-fil / corte de linhas / rasafilo / cortahilos / draadsnijder
Y7 I max 4 A ✱ 	Fadenspannungslösen / thread tension release / détendeur de fil / soltar tensão da linha / sbloccaggio tendifilo / detensión del hilo / verbreken van de draadspanning
Y8 I max 4 A ✱ 	Saugen - Motorlauf / vacuming - motor runs
Y9 I max 500 mA 	Anschlag / lineal
M1 	Schrittmotor 1 / stepping motor 1 / moteur pas á pas 1 / motor de passo 1 / motore step 1 motor de pasos 1 / stappen motor 1

Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys
Signification des aimants resp. solenoides et touches / Significação dos imaõs e/ou as solenoidas e teclas
Significato dei magneti, delle valvole magnetiche e dei tasti / Significación de los imanes y/o los solenoides
y pulsadores / Betekenis van de magneten resp. magneetkleppen, toetsen

[A3] 	Oberteilerkennung / sewing machine identify unit

* Die Summe der Lastströme aller gleichzeitig eingeschalteten Stellglieder (Magnete, Magnetventile) darf den Wert von 4A nicht überschreiten (siehe hierzu Kapitel 2. Technische Daten).

* The total of load currents of all servos activated simultaneously (solenoids, solenoid valves) is not allowed to exceed 4 amps (see also section 2. Technical Specifications).

* Le total des courants de charge de tous les vérins (aimants, électro-vannes) activés simultanément ne doit pas dépasser 4 A (voir aussi le chapitre 2. "caractéristiques techniques").

* A soma das correntes sob carga de todos os actuadores ligados ao mesmo tempo (ímans, solenóides) não pode ultrapassar o valor de 4A (ver também capítulo 2. Dados Técnicos).

* La somma delle correnti di carico di tutti gli attuatori inseriti contemporaneamente (magneti, elettrovalvole) non deve essere superiore a 4 A (vedere il capitolo 2. Dati Tecnici).

* La suma de las corrientes bajo carga de todos los elementos de todos los componentes de regulación conectados simultáneamente (imanes, válvula magnética) no podrá sobrepasar el valor de 4A (véase también el capítulo 2. de datos técnicos).

* De belastingsstroom van alle tegelijkertijd ingeschakelde bedieningsschakels (magneten, magneetventielen) mag in totaal niet meer dan 4 A bedragen (zie hiervoor hoofdstuk 2.Technische gegevens).